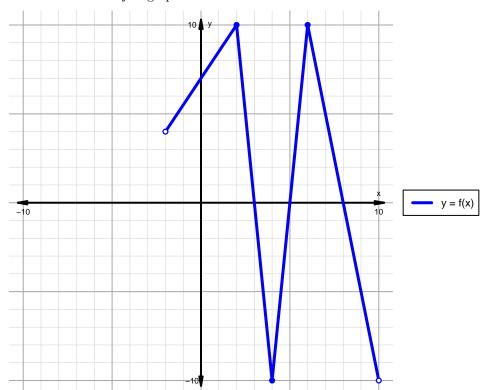
## Intervals, Transformations, and Slope Solution (version 41)

1. The function f is graphed below.

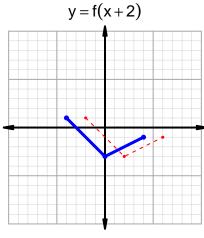


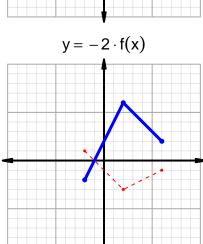
Indicate the following intervals using interval notation. Remember, you can use  $\cup$  between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

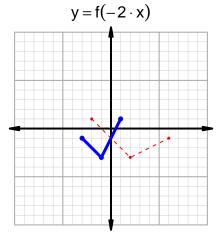
Feature	Where
Positive	$(-2,3) \cup (5,8)$
Negative	$(3,5) \cup (8,10)$
Increasing	$(-2,2) \cup (4,6)$
Decreasing	$(2,4) \cup (6,10)$
Domain	(-2,10)
Range	(-10, 10)

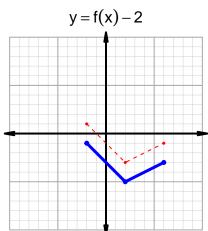
## Intervals, Transformations, and Slope Solution (version 41)

2. In the four graphs below, y = f(x) is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.









3. Let function g be defined by the table below. Use the formula  $\frac{g(x_2)-g(x_1)}{x_2-x_1}$  to find the average rate of change between  $x_1=13$  and  $x_2=48$ . Express your answer as a reduced fraction.

$$\begin{array}{c|cc} x & g(x) \\ \hline 13 & 26 \\ 26 & 48 \\ 46 & 13 \\ 48 & 46 \\ \hline \end{array}$$

$$\frac{f(48) - f(13)}{48 - 13} = \frac{46 - 26}{48 - 13} = \frac{20}{35}$$

The greatest common factor of 20 and 35 is 5. Divide numerator and denominator by the greatest common factor.

$$AROC = \frac{4}{7}$$

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